



# State of Utah

DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor  
Ted Stewart  
Executive Director  
James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

January 2, 1997

TO: James W. Carter, Director  
FROM: Pamela Grubaugh-Littig, Permit Supervisor *pgl*  
RE: Active Coal Bond Status Report as of Decemberr 31, 1996

Attached is a copy of the current active coal bond status report. Presently, the coal program has a total of \$76,802,175 in various forms of reclamation bonds.

|                                   |                  |       |
|-----------------------------------|------------------|-------|
| Corporate Sureties (28)           | \$ 70,029,750    | > 91% |
| Irrevocable Letters of Credit (3) | \$ 2,505,902     | > 3%  |
| Real Estate (1)                   | \$ 2,813,562     | < 4%  |
| Self Bond (1)                     | \$ 1,388,000     | < 1%  |
| Certificate of Deposit (1)        | <u>\$ 75,000</u> | < 1%  |
|                                   | \$ 76,802,170    |       |

blb

Attachment

cc: L. Braxton  
M. Wright  
D. Haddock  
J. Helfrich  
Price Field Office  
Library

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| Name Of Project<br>Permit Number  | Disturbed<br>Surface<br>Acres | Present Bond<br>Amount<br>(Year Dollars) | Type of Bond<br>Posted | Principal Holder*<br>(Best's Rating)<br>1996                     | Year Date<br>Posted<br>(Ridered)    | Cost per Acre | Comments   |
|---|-------------------------------|--|------------------------|--|-------------------------------------|---------------|--|
| White Oak Mining &<br>Construction Co., Inc.<br>White Oak Mine No. 1<br>White Oak Mine No. 2<br>ACT/007/001 | 140.2                         | \$5,891,000<br>(1999)                    | Surety<br>(Ridered)    | National Union<br>Fire Ins Co.<br>13-60-93<br>(A++)              | 3/31/94                             | \$42,019      | Transferred from Valley<br>Camp 5/27/94.<br>(Disturbance in mine site,<br>office & loadout). JWC<br>letter of 6/19/95 will reduce<br>bond to \$3,398,000 (1999<br>dollars).                            |
| AMAX Coal Company<br>Castle Gate Mine<br>ACT/007/004  | 134.5                         | \$6,757,451                              | Surety                 | National Fire<br>Insurance Company<br>Hartford<br>#929-80-55 (A) | 1/31/86<br>(10/3/94)<br>(2/06/96)   | \$69,267      | Increased to \$4,415,505<br>on 10/3/94; Reclamation<br>Agreement Submitted<br>1/95. Ridered 2/6/96.  |
| Canyon Fuel Co, LLC<br>Skyline Mine<br>ACT/007/005  | 65.38                         | \$3,180,000<br>(1996)                    | Surety                 | United Pacific Ins. Co.<br>#U2760729 (A-)                        | 3/15/90<br>(5/31/90)<br>(6/9/92)    | \$48,639      | Original Bond Amount -<br>\$1,850,500 (6/20/89);<br>Bonds replaced 7/30/90;<br>Rider added 3/15/90; Rider<br>added 6/9/92; Transferred<br>from Costal Energy to<br>Canyon Fuel Co. LLC on<br>12/20/96. |
| Cyprus Plateau Mining Corp.<br>Star Point Mine<br>ACT/007/006   | 173.2                         | \$5,180,000<br>(1996)                    | Surety                 | Aetha Casualty & Surety<br>Co. 64S100208576BCA<br>(A)            | 11/26/85<br>(10/26/90)<br>(4/27/94) | \$29,908      | Reclamation Agreement<br>Signed 11/2/90; Ridered<br>"termination" language<br>9/91; Increased to<br>\$5,180,000 (1996) on<br>4/27/94.  |

## COAL BONDS

As of January 2, 1997

| Name Of Project<br>Permit Number                               | Disturbed<br>Surface<br>Acres | Present Bond<br>Amount<br>(Year Dollars)                  | Type of Bond<br>Posted          | Principal Holder*<br>(Best's Rating)<br>1996  | Year Date<br>Posted<br>(Ridered)                             | Cost per Acre      | Comments  |
|--|-------------------------------|---|---------------------------------|---|--|--------------------|---|
| Sunnyside Coal Company<br>Sunnyside Mine<br>ACT/007/007        | 287.4                         | \$1,850,184 to be<br>approved by U.S.<br>Bankruptcy Court | Combination                     | C.D. issued for<br>\$75,000 at Zions<br>First National Bank.<br>First Deed of Trust<br>for Undisturbed Land<br>and Water Rights;<br>Agreement 8/28/89 | 8/31/89  | \$6,438            | Escrow Agreement<br>Finalized 6/90 3/13/89<br>Active Status; Transferred<br>from Kaiser Coal Co. to<br>SCC (previously SRS)<br>5/26/89. Filed Chapter 11<br>on 3/25/94; DOGM Filed<br>Bankruptcy Claim 9/1/94;<br>to Chapter 7 on 6/23/95.<br>Undisturbed land sold to<br>Penta Creeks on 3/12/96.<br>OSM/DOGM agreed on<br>\$1,850,184 cash collateral<br>on 11/18/96, now to<br>bankruptcy Court. |
| U. S. Fuel Co.<br>Hiawatha Mines Complex<br>ACT/007/011        | 290                           | \$1,450,000<br>\$1,388,000<br>(1999)                      | Surety<br>Self Bond             | Insurance Company of<br>North America<br>K01733369 (A-)   | 4/8/83<br>(12/16/86)   | \$5,000<br>\$4,786 | Reclamation Agreement<br>needed. Bond amount<br>(1996 dollars) adjusted to<br>\$2,838,000 on 3/1/95 per<br>JWC letter of 2/13/95.<br>Parent guarantor - Mueller<br>Industries on 11/7/95.   |
| NEICO<br>Wellington Prep. Plant<br>ACT/007/012                 | 356<br>(744)                  | \$6,036,000<br>(1999)                                     | Surety                          | Safeco Insurance Co.<br>#5612986 (A++)  | 10/26/89<br>(5/27/93)<br>(3/29/94)<br>(9/09/94)<br>(9/18/95) | \$16,955           | Permit Transfer to Genwal<br>10/10/89; Permit Transfer<br>to Castle Valley Resources<br>12/5/91; Rider added<br>5/27/93 Transferred to<br>NEICO 4/18/94. Bond<br>ridered 3/29/94 & 9/09/94<br>from \$3,279,000. Ridered<br>to \$6,036,000 on 9/18/95.   |
| Intermountain Power Agency<br>Horse Canyon Mine<br>ACT/007/013 | 50                            | \$1,950,002<br>(1991)                                     | Irrevocable<br>Letter of Credit | Zions First National<br>Bank  | 5/03/91  | \$39,000           | IPA Acquired Horse<br>Canyon Mine 4/5/90;<br>Permit issued 5/6/91; Bond<br>increased 5/3/91. Phase I<br>Bond release application.   |

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|--|-------------------------------|--|------------------------|---|-----------------------------------|---------------|---|
| Mountain Coal Co.<br>Gordon Creek #2, 7 & 8<br>ACT/007/016 | 17.58                         | \$641,443<br>(\$45,900)<br>(1989)        | Surety<br>(Released)   | United Pacific Insurance<br>Co U-62-99-85 and<br>#8082-93-00 (A-) | 11/22/77<br>8/14/87               | \$36,487      | Ridered "termination"<br>language 9/91. 1989<br>dollars. Mine closed 1990.<br>Structures removed.<br>Reclamation started<br>9/29/95, continued during<br>1996. To be continued in<br>1997.  |
| Mountain Coal Co.<br>Gordon Creek #3 & #6<br>ACT/007/017   | 17.3                          | \$52,971<br>(1986)                       | Surety                 | United Pacific Insurance<br>Co. U-629895 (A-)                     | 9/19/86<br>(7/13/87)<br>(2/13/95) | \$3,062       | Original Bond Amount<br>\$346,000. 1986 dollars;<br>Phase I-Bond Release<br>Effective 6/26/87 Ridered<br>7/13/87. Phase II Bond<br>Release (rider eff as of<br>2/13/95) \$85,429.   |
| Canyon Fuel Co. LLC<br>Soldier Canyon Mine<br>ACT/007/018  | 24                            | \$3,238,000<br>(1993)                    | Surety                 | United Pacific Ins. Co.<br>#U-2760732 (A-)                        | 9/15/93                           | \$134,917     | Increased from \$577,000<br>5/2/91; Increased in<br>conjunction with renewal,<br>includes waste rock, not<br>built yet. Transferred to<br>Coastal 9/15/93. Previously<br>\$1,940,000, 1991 dollars.<br>(Bond posted 12/3/93) .<br>\$30,000 posted on<br>03/13/95 for Dugout Creek<br>exploration. Transferred<br>from Soldier Creek Coal<br>Co. To Canyon Fuel Co.,<br>LLC on 12/20/96. |
| Andalex Resources<br>Centennial Project<br>ACT/007/019     | 34.2                          | \$381,839<br>\$699,000<br>(1995)         | Surety<br>Surety       | Ulrica Mutual Insurance<br>SU34593 (A) &<br>SU1354086             | 5/16/83<br>7/3/90<br>(2/23/93)    | \$11,165      | Ridered to increase to<br>\$1,080,839 on 7/3/90.  |
| Horizon Coal Corporation<br>Horizon Mine<br>PRO/007/020    |                               | \$209,200.00<br>(2001)                   | Surety                 | St. Paul Fire & Maine<br>Ins. Co.<br>#400JU4131                   | 10/09/96                          |               | Permit issued 10/10/96.   |

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|--|-------------------------------|--|--|---|----------------------------------|---------------|--|
| North American Equities<br>Blazon #1 Mine<br>ACT/007/021                         | 1.5                           | (\$38,000)<br>(Forfeited)                | Irrevocable<br>Letter<br>of Credit<br>S43865 | United Bank<br>of Denver                          | 5/5/89                           | \$25,333      | LOC with First Interstate<br>Bank replaced 2/91;<br>Amount reduced from<br>\$48,400 4/30/91; Bond<br>forfeited 5/24/91-Cashier's<br>Check to Division; To AML<br>on 2/9/94 per LPB.  |
| Savage Industries, Inc.<br>Savage Coal Terminal<br>ACT/007/022                   | 160                           | \$2,728,178<br>(1999)                    | Surety                                       | United Pacific Insurance<br>Company (A-) U-629894 | 4/22/87<br>(9/01/94)             | \$17,051      | Ridered "termination"<br>language 9/91. Permit<br>reissued 5/2/94; Bond<br>Ridered on 9/22/94.<br>Savage & Mtn. Coal Co.,<br>co-principals.  |
| Andalex Resources, Inc.<br>Wildcat Loadout Facility<br>ACT/007/033               | 60                            | \$813,795<br>(1999)                      | Surety                                       | Continental Casualty Co.<br>400776222 (A)         | 12/1/92<br>(6/10/93)             | \$13,563      | Changed from Pittsburgh<br>National Bank in 4/92;<br>Replaced ILOC 12/9/92.  |
| Canyon Fuel Co, LLC<br>Banning Siding Loadout<br>ACT/007/034                     | 21.4                          | \$350,000<br>(2000)                      | Surety                                       | United Pacific Ins. Co.<br>U2760739               | 9/15/93                          | \$16,355      | Transfer to Coastal States<br>9/15/93. Increased from<br>\$211,000 to \$350,000 on<br>12/12/95. Transferred from<br>Soldier Creek Coal Co. To<br>Canyon Fuel Co. LLC on<br>12/20/96.   |
| Sunnyside Cogeneration<br>Associates<br>Sunnyside Refuse & Slurry<br>ACT/007/035 | 202                           | \$1,900,000<br>(1997)                    | Surety                                       | Frontier Ins. Co.<br>35790<br>(A-)                | 4/21/94<br>(12/04/96)            | \$9,406       | Permit issued 2/4/93; ILOC<br>(S-09742-00018)<br>Replaced with Surety on<br>4/21/94. Continuation<br>certificate 3/30/96 - 3/30/97<br>for bond #35790. Bond<br>amount increased to<br>\$2,094,000. Per Division<br>Order required by 10/22/96<br>but not posted to date.<br>Ridered to \$1,900,000 on<br>12/04/96. |

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|--|-------------------------------|--|------------------------|--|--|---------------|---|
| Cyprus Plateau Mining Corp.<br>Blackhawk Exploration Site<br>CEP/007/038 | 3.1                           | \$55,000                                 | Surety                 | Aetna Casualty & Surety<br>Company<br>64S100767004BCA<br>(A) | 9/21/92  | \$17,742      | Exploration Project<br>Ridered - More<br>Disturbance. Permit<br>terminated 5/17/96.   |
| Cyprus Plateau Mining Corp.<br>Willow Creek Mine<br>ACT/007/038          | 3.1                           | \$11,949,205<br>(2001)                   | Surety                 | United Pacific Insurance<br>Company<br>(A-)                  | 04/19/96                                       | \$3,854,582   | Permit issued 4/23/96   |
| Western States Minerals<br>J. B. King Mine<br>ACT/015/002                | 28                            | \$126,078<br>(1986)                      | Surety                 | Seaboard Surety Co.<br>#104570 (A+)                          | (4/28/86)                                      | \$4,503       | Original Bond Amount -<br>\$262,577. Phase I Bond<br>Release (effective 5/20/86)<br>Ridered-4/28/86.  |
| Mountain Coal Co.<br>Huntington #4 Mine<br>ACT/015/004                   | 12.5                          | \$46,734<br>(1985)                       | Surety                 | United Pacific Ins. Co.<br>#U-630694<br>(A-)                 | 4/15/85<br>(12/12/86)<br>(7/8/88)<br>(1/31/96) | \$3,739       | Original Bond Amount -<br>\$360,102; (Phase I-60%<br>bond release effective -<br>11/10/86 ridered -<br>12/31/86). Ridered<br>"termination" language<br>9/91. Phase II bond<br>release eff when sed pond<br>removed 3/20/95.<br>Removed. Ridered<br>1/31/96. |
| Consolidation Coal Co.<br>Hidden Valley Mine<br>ACT/015/007              | 6.7                           | \$90,758<br>(1999)                       | Surety                 | Seaboard Surety<br>#331474<br>(A+)                           | 10/13/95                                       | \$13,546      | Original Bond Amount -<br>\$171,515. Phase I bond<br>release effective 7/17/88.<br>Permit transferred 11/2/95<br>from Hidden Valley Coal<br>Company to Consolidation<br>Coal Company.   |

COAL BONDS

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|--|-------------------------------|--|------------------------|--|----------------------------------|---------------|--|
| PacifiCorp<br>Trail Mountain Mine<br>ACT/015/009         | 24.78                         | \$1,000,000<br>(1999)                    | Surety                 | St. Paul Fire & Marine<br>Ins. Co.<br>#400JV3710<br>(A+) | 9/01/94                          | \$40,355      | Federal Mine Approval<br>Tract 1 & 2 Transfer<br>effective 11/23/87; Federal<br>Lease Tract approved<br>5/15/91; Ridered<br>"termination" language<br>9/91; Ridered increased<br>amount and disturbance on<br>4/28/92 (from \$463,711<br>and 8.8 acres).<br>Transferred from Mountain<br>Coal Company to<br>PacifiCorp 11/13/92.<br>Ridered 8/3/93 to increase<br>amount due to increased<br>disturbance; Replaced<br>9/01/94. (\$834,228 - year<br>1999 dollars.) |
| Consolidation Coal Co.<br>Emery Deep Mine<br>ACT/015/015 | 247                           | \$3,454,443                              | Surety                 | Seaboard Surety<br>#188617 (A+)                          | 12/11/85<br>(5/3/91)             | \$13,986      | Bond includes mine and<br>preparation plant area.  |
| PacifiCorp<br>Des-Bee-Dove Mine<br>ACT/015/017           | 74.5                          | \$1,837,712<br>(2000)                    | Surety                 | St. Paul Fire & Marine<br>Ins. Co.<br>#400JN6139<br>(A+) | 1/25/85<br>(12/6/90)             | \$24,667      | New Bond Submitted for<br>PacifiCorp 12/90; Ridered<br>"termination" language<br>9/91; Replaced 9/1/94.<br>(\$1,553,638 - year 2000<br>dollars.)   |

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|--|-------------------------------|--|---------------------------------|--|---|---------------|--|
| PacifiCorp<br>Deer Creek Mine<br>ACT/015/018         | 95.79                         | \$2,500,000<br>(2000)                    | Surety                          | St. Paul Fire & Marine<br>Ins. Co.<br>#400JN6140<br>(A+) | 3/15/85<br>(9/17/92)<br>(8/26/96)                               | \$26,099      | Waste Rock Storage<br>Added 9/88; Original Bond<br>Amount - \$1,224,000; New<br>Bond Submitted for<br>PacifiCorp 12/90; Ridered<br>"termination" language<br>9/91; Increased from<br>\$1,724,000 to include<br>amendment changes 9/92;<br>Disturbed Acreage<br>increased to 93.29<br>(2/14/93); Replaced 9/1/94.<br>Ridered for escalation<br>8/26/96. |
| PacifiCorp<br>Cottonwood/Wilberg Mine<br>ACT/015/019 | 101.74                        | \$2,071,098<br>(1994)                    | Surety                          | St. Paul Fire & Marine<br>Ins. Co.<br>#400JN6138<br>(A+) | 6/15/84<br>(11/3/89)<br>(6/7/90)<br>(11/13/90)                  | \$20,357      | Original Bond<br>Amount-\$1,294,522<br>Ridered 6/7/90 for Waste<br>Rock Site - \$1,586,008<br>(New Bond Submitted<br>11/20/90 for PacifiCorp<br>with revised amount);<br>Ridered "termination"<br>language 9/91; Replaced<br>9/1/94.   |
| Co-Op Mining Co.<br>Trail Canyon Mine<br>ACT/015/021 | 10                            | \$30,000<br>(1994)                       | Irrevocable<br>Letter of Credit | West One Bank<br>#S-557                                  | 6/15/89<br>(4/24/96)  | \$3,000       | Automatically Renewable;<br>Phase I Bond Release -<br>approved 7/18/94 for<br>\$120,000. Phase II<br>release approved 1/31/96;<br>ridered 4/24/96.   |
| Co-Op Mining Co.<br>Bear Canyon Mine<br>ACT/015/025  | 24                            | \$525,000<br>(1999)                      | Irrevocable<br>Letter of Credit | West One Bank<br>#1055                                   | Amended<br>10/20/92 (for<br>C.W. Mining)<br>Expires<br>10/24/94 | \$21,875      | Automatically Renewable;<br>Increased to \$340,282 on<br>1/11/94; Increased to<br>\$487,911 on 9/1/94; Rider<br>increased to \$507,000 on<br>2/17/95. Rider increased to<br>\$525,000 on 7/31/95.  |



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|---|-------------------------------|--|------------------------|---|-----------------------------------|---------------|---|
| Genwal Resources Inc.<br>Crandall Canyon Mine<br>ACT/015/032              | 9.7                           | \$703,000<br>(1996)                      | Surety                 | American Home<br>Assurance Co.<br>#02-B-54926<br>(A++)                | 3/14/95                           | \$72,474      | Replaced ILOC 7/30/90<br>with Surety. Rider 9/21/93.<br>Transferred to Genwal<br>Resources Inc., on 3/22/95.<br>SAFECO bond #4689174<br>replaced eff. 3/14/95.  |
| Canyon Fuel Co, LLC<br>Convulsion Canyon Mine<br>ACT/041/002              | 69.70                         | \$3,988,000<br>(1997)                    | Surety                 | United Pacific Insurance<br>Co. U2760730                              | 4/12/91<br>(7/23/92)<br>(7/27/95) | \$57,217      | Ridered 7/23/92;<br>Reclamation Agreement<br>updated 2/25/93. Ridered<br>eff. 7/27/95. Transferred<br>from SUFCO to Canyon<br>Fuel Co, LLC on 12/20/96.   |
| BHP Petroleum (Americas)<br>Knight Mine<br>ACT/041/005                    | 40                            | \$320,000<br>(1990)                      | ILOC                   | Australian and New<br>Zealand Banking Group<br>#1996/8200             | 1/30/96                           | \$8,000       | Federal Ins. Co. Surety<br>replaced 9/16/90; Phase I<br>Bond Release on 11/8/94<br>of \$480,000. Replaced<br>with ILOC on 1/30/96.  |
| Summit Minerals<br>Summit #1 Mine<br>(aka: Blackhawk Mine)<br>INA/043/001 | 19                            | (\$120,300)                              | Subord.<br>Agreement   | Division (Real Estate in<br>Wallsburg, UT) (Permit<br>Denied)         | 6/4/86                            | \$6,332       | Not active coal mine,<br>exploration only. In process<br>of selling collateral bond:<br>(Bond Forfeiture); 10/27/95<br>officially to AML. AAG<br>opinion.   |
| Summit Coal Co.<br>Boyer Mine<br>ACT/043/008                              | 7                             | (\$100,900)                              | Subord.<br>Agreement   | Division (Real Estate in<br>Park City, Utah) Permit<br>Revoked 8/4/89 | 8/2/85                            | \$14,414      | Collateral Bond has been<br>sold and money in<br>possession of State - AML<br>Started Reclamation in<br>November 1994.<br>Completed in March 1995.<br>Field evaluation by Title V -<br>draft of evaluation and<br>cost accounting of bond<br>forfeiture to administration<br>on 10/20/95. |

\*All of the bonding companies are listed in the Federal Register, July 1, 1996, the Department of Treasury listing of Surety Companies acceptable on Federal bonds.



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

cc: Mary Ann  
Wayne H

Michael O. Leavitt  
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February 4, 1997

TO: File #2

THRU: Daron Haddock, Permit Supervisor *DH*

FROM: James D. Smith, Reclamation Specialist *JDS*

RE: Application for Exemption for Coal Extraction Incidental to the Extraction of Other Minerals, Sunray Mineral Products (Utah State Coal Lease #ML 43377), Folder #2, Wayne County, Utah

**SUMMARY**

Sunray Mineral Products has requested exemption from the Utah Coal Mining Rules, as allowed under Section R645-106 of the Rules, in order to commercially exploit a weathered, low-grade coal deposit in Wayne County. The product is intended for use as a soil conditioner rather than as fuel. The operation, as proposed in the current application, does not satisfy the requirements for exemption in Sections R645-100-400 and R645-106.

An application for exemption for personal, non-commercial use of this coal (R645-100-411) was made in 1992 by Dick Shumway. Mr. Shumway is the signer of the current Sunray application. The weathered coal was to be used as a soil conditioner. Judging from copies of correspondence in a file kept by Pam Grubaugh-Littig, Mr. Shumway complied with DOGM's requirements and obtained the exemption; however, no approval document is in Pam's file. Permitting apparently was done through DOGM's minerals program. An inspection of the site by Holland Shepherd in May 1993 found evidence of reclamation work but none of recent mining activity (see attached copy).

**TECHNICAL ANALYSIS**

**MINERALS TO BE EXTRACTED (R645-106-312)**

Analysis:

The material to be extracted is a low-rank, weathered coal. Various names are applied to this type of coal, including "leonardite coal". Weathered coal is often rich in humic acid and similar acids such as fulvic and ulvic that give the coal value as a soil conditioner. The



word "humate" commonly refers to rock containing abundant humic acid along with mineral components such as clay and silt. Humate can include thin coals interbedded with humic shales. Coal seams as thick as three feet are included in strata at Harley Dome, Utah described as humate (Jackson, 1983), but some consider weathered coal to be distinct from humate (Siemers and Wadell, 1977).

There are currently three operations mining humate or humic shale in Utah. The mined materials are used to produce various "health" products. These mining operations are regulated by the Minerals Section of DOGM. Humates, both humic shales and weathered coals, have been mined in several states for various uses such as soil enhancers, drilling fluid additives, and stains (Siemers and Wadell, 1977; Hoffman and others, 1994). I talked by telephone with Jim O'Hara of the New Mexico Mining and Minerals Division, who told me there is currently one active humate mining operation in New Mexico. The product is used as a soil enhancer. The operation is small, on private land, and is regulated under New Mexico's "hard rock" mining regulations. The material mined is described as humate or humic shale, not coal.

There are no analyses in the Sunray Mineral application that indicate if humic and similar acids are present in this weathered coal deposit. Results of three proximate analyses of the coal are included in the application, summarized in Table 1 below. Sampling methods and locations are not described but it has been assumed that these are valid channel samples from coal freshly exposed in the existing pit.

Low pH and high sulfur are typical of humic shales and coals. Ash greater than fifty percent in sample #3 indicates this sample is not coal but rather coaly shale or siltstone.

Utah Coal Mining rules (R645-100-200) define coal as "combustible, carbonaceous rock, classified as anthracite, bituminous, subbituminous, or lignite by ASTM Standard D388-77". ASTM Standard D388-77 was updated in 1995 to D388-95. A copy of Standard D388-77 could not be found but, as far as can be determined by using additional references, Btu values used to define coal rank have not been changed between D388-77 and D388-95. All three of Sunray Mineral's samples have Btu values below 6300 Btu/lb so are of too low quality to be considered lignite according to ASTM Standard D388-95. This supports Sunray Mineral's assertion that the material to be mined is not coal and is not subject to Utah Coal Mining Rules.